CLAIMS

What Is Claimed Is:

1. A direction-finding method comprising the steps of:

establishing a cross-over position point;

relocating a receiver to a new receiver spacial location;

said receiver at said new receiver position receiving a transmission from a transmitter at a transmitter position;

determining a real-time line of bearing from said receiver to said transmitter;

generating a connecting vector from said real-time line of bearing to said crossover position point; and

identifying a real-time position of said transmitter along said connecting vector.

- 2. The method of Claim 1, wherein said identifying comprises identifying a best guess transmitter position responsive to said real-time position of said transmitter.
- 3. The method of Claim 2, further comprising the steps of:

again relocating said receiver to a new receiver spacial location;

said receiver at said new receiver position receiving a transmission from said transmitter at a transmitter position;

determining another said real-time line of bearing from said receiver to said transmitter;

generating a said connecting vector from said last real-time line of bearing to said best guess transmitter position; and identifying said best guess position of said transmitter along said connecting vector.

4. The method of Claim 3, wherein:

said determining step further comprises determining a quality factor for said realtime line of bearing; and

said identifying step further comprises assigning a probability factor to said realtime position of said transmitter responsive to said quality factor.

- 5. The method of Claim 3, further comprising a repeating step to repeat said relocating, receiving, determining, generating and identifying steps until said probability factor exceeds a predetermined threshold value.
- **6.** The method of Claim 3, further comprising a repeating step to repeat said relocating, receiving, determining, generating and identifying steps until a user terminates said direction finding method.
- 7. The method of Claim 3, further comprising a repeating step to repeat said relocating, receiving, determining, generating and identifying steps until said probability factor meets a user-defined threshold value.
- **8.** A direction-finding method executed by a portable DF set comprising a receiver and a programmable computing system comprising a processor, an input device, an output device and a storage medium, the method comprising the steps of:

establishing a cross-over position point representing a position of a transmitter and outputting said point at said output device;

moving said DF set to a new DF set position;

receiving at said DF set in said new DF set position, a transmission from said transmitter;

determining, via said programmable computer, a real-time line of bearing from said DF set to said transmitter responsive to said transmission;

generating, via said programmable computer, a connecting vector from said realtime line of bearing; and

determining a real-time transmitter position along said connecting vector and outputting said position at said output device.

- 9. The method of Claim 8, wherein said identifying comprises identifying a best guess transmitter position responsive to said real-time position of said transmitter.
- 10. The method of Claim 9, further comprising the steps of:

again relocating said receiver to a new receiver spacial location;

said receiver at said new receiver position receiving a transmission from said transmitter at a transmitter position;

determining another said real-time line of bearing from said receiver to said transmitter;

generating a said connecting vector from said last real-time line of bearing to said best guess transmitter position; and

identifying said best guess position of said transmitter along said connecting vector.

11. The method of Claim 10, wherein:

said determining step further comprises determining a quality factor for said realtime line of bearing; and

said identifying step further comprises assigning a probability factor to said realtime position of said transmitter responsive to said quality factor.

- 12. The method of Claim 10, further comprising a repeating step to repeat said relocating, receiving, determining, generating and identifying steps until said probability factor exceeds a predetermined threshold value.
- 13. The method of Claim 10, further comprising a repeating step to repeat said relocating, receiving, determining, generating and identifying steps until a user terminates said direction finding method.
- **14.** The method of Claim 10, further comprising a repeating step to repeat said relocating, receiving, determining, generating and identifying steps until said probability factor meets a user-defined threshold value.
- **15.** A real-time direction-finding system, comprising:
- a transmitter transmitting wireless transmissions, said transmitter defining a spacial location;
 - a DF set comprising a movable receiver for receiving said transmissions; and
- a computing device for determining said special location of said transmitter responsive to transmissions received by said movable receiver and not responsive to other said receivers.
- 16. The system of Claim 15, wherein said computing device operatively:

generates a cross-over point;

receives a transmission signal responsive to a transmission received by said DF set after said DF set has been moved to a new spacial location;

determines a real-time line of bearing from said DF set to said transmitter responsive to said transmission signal;

generates a connecting vector from said real-time line of bearing; and

determines a real-time transmitter position along said connecting vector and outputting said position at said output device.